

46. A method according to claim 29 further comprising a step of patterning the crystallized semiconductor film to form an active region of a thin film transistor.

47. A method according to claim 36 further comprising a step of patterning the crystallized semiconductor film to form an active region of a thin film transistor.--

REMARKS

The Examiner's Official Action dated August 31, 1998 has been received and its contents carefully noted. Reconsideration and withdrawal of the currently pending rejections are requested for the reasons advanced in detail below.

Filed concurrently herewith is a *Request for a One Month Extension of Time* which extends the shortened statutory period of response to December 31, 1998. Accordingly, Applicants respectfully submit that this response is being timely filed.

With respect to the rejection of claims 19-28 under 35 U.S.C. §102(e) as being anticipated by Zhang '937, Applicants have amended claims 19 and 24 to recite the limitation of using of a solution for applying the catalyst. Since this feature is not disclosed by Zhang '937, this rejection should be overcome.

Furthermore, Applicants submit herewith an English Translation of priority Japanese Patent Application No. 6-51237. This provides the instant application an effective filing date of February 23, 1994. Consequently, Zhang

et al. '937 should be removed as a reference against the instant application, since the filing date thereof is only July 20, 1994.

With respect to the rejection of claims 19-21, 23-26, and 28 under 35 U.S.C. §102(e) over Zhang et al. '772, the Examiner contends that, absent evidence to the contrary, the heating rate of a halogen flash lamp and the cooling rate thereof are within the claimed ranges. However, at least, the heating rate of the lamp is controllable, and, in fact, has to be controlled to reach the recited heating rates of the present invention. As a result, Applicants contend that this reference fails to teach each and every feature of the claims, and thus, cannot be an anticipation. There is nothing in the reference itself that would suggest that the recited heating rate is somehow inherent for a halogen flash lamp. Consequently, this rejection should be withdrawn, or the Examiner should cite an appropriate reference which shows that the recited heating rate is an inherent factor of a halogen flash lamp.

Claims 19-23 are also rejected under 35 U.S.C. §103(a) over Zhang et al. '121 in view of Zhang et al. '937. This rejection is overcome for the reasons advanced above with respect to Zhang et al. '937. Further, the effective filing date of the instant application is also prior to the filing date of Zhang et al. '121 of May 25, 1994. Consequently, Zhang et al. '121 should also be removed as a references against the instant application.

With respect to the rejection of claims 29-33 under 35 U.S.C. §103(a) as being unpatentable over Zhang '772, in view of Hultman, the Examiner contends again that Zhang '772 teaches to crystallize the semiconductor film using a catalyst as well as using silicon nitride as the insulating layer. Initially, it should be noted that Zhang '772 merely teaches the use of a silicon nitride

layer for forming a patterned catalyst layer in column 7, lines 30-34. Applicants could find no teaching of heating the semiconductor film and the catalyst with the silicon nitride layer, in Zhang '772.

Although Applicants note that Zhang '772 teaches to use a cover film which may be silicon nitride during crystallization, the catalyst is not used in this embodiment. Therefore, Applicants submit that the rejection of claim 33 is not correct.

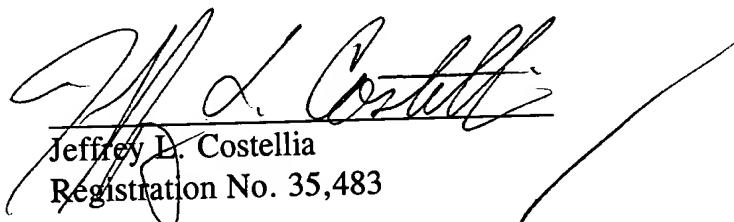
Further, the specification of the present invention clearly teaches a drawback of using a semiconductor film having a (111) plane orientation on page 3. The reference to Hultman, on the other hand, teaches that the gold assisted crystallized semiconductor film has a random orientation which includes a (111) orientation. Therefore, Applicants submit that the amended claim 29 is clearly distinguishable over the combination of Zhang '772 and Hultman.

With respect to the double patenting rejection, Applicants submit that the claims of U.S. Patent No.5,605,846 fail to recite the claimed heating rate or the non (111) orientation. Although Applicants acknowledge that the use of a silicon nitride film as recited in claim 23 of the '846 patent may be relevant to the non (111) orientation, Applicants contend that the claims, as amended, herein, are patentably distinguishable over the claims of the '846 patent.

New claims 34-47 are added herein to recite additional features of the present invention to which Applicants are entitled. Claim 36 is similar to claim 24. Support for claims 40-43 is provided on page 11, lines 9-10 of the specification, and support for claims 44-47 is provided on page 13, lines 13+ of the specification.

In view of the foregoing, it is respectfully requested that the rejections of record be reconsidered and withdrawn by the Examiner, that claims 19-33 be allowed, that new claims 34-47 be allowed and that the application be passed to issue. If a conference would expedite prosecution of the instant application, the Examiner is hereby invited to telephone the undersigned to arrange such a conference.

Respectfully submitted,



Jeffrey L. Costellia
Registration No. 35,483

SIXBEY, FRIEDMAN, LEEDOM & FERGUSON, P.C.
8180 Greensboro Drive, Suite 800
McLean, Virginia 22102
(703) 790-9110
(703) 883-0370 FAX